UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,626	09/29/2003	Takuya Hamada	HAMA3005/EM	6229

23364 7590 02/08/2006

BACON & THOMAS, PLLC
625 SLATERS LANE
FOURTH FLOOR
ALEXANDRIA, VA 22314

EXAMINER	
SANTIAGO, MARICELI	
ART UNIT	**PAPER NUMBER**
2879	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,626	HAMADA ET AL.	
	Examiner	Art Unit	
	Mariceli Santiago	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2 and 4-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2 and 4-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/05, 11/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on November 23, 2006, has been entered and acknowledged by the Examiner.

Cancellation of claims 1 and 3 has been entered.

Claims 2 and 4-9 are pending in the instant application.

Upon further consideration, the indicated allowability of claims 2, 4 and 5 is withdrawn in view of the newly discovered references to Kagami et al. (US 4,275,333) and Hamada et al. (US 6,690,119). Rejections based on the newly cited references follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kagami et al. (US 4,275,333).

Regarding claim 2, Kagami discloses a fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer formed on an anode, wherein the phosphor layer comprises a compound containing at least one of P, K and Na ((Sr, $Ba)_3(PO_4)_2:Eu^{2+}$, Column 5, lines 22-27) and a compound containing W (WO_3, Column 6, lines 11-16).

Regarding claim 5, Kagami discloses a fluorescent display device wherein the phosphor layer is a compound containing at least one selected from the group consisting of a Ln_2O_2S:Re, wherein Ln is La, Gd or Lu; and Re is Eu or Tb (Column 5, lines 34-37).

Regarding claim 8, Kagami discloses a phosphor paste comprising a phosphor (Column 5, lines 34-37); a first compound containing at least one of P, K and Na ($(Sr, Ba)_3(PO_4)_2$:Eu^{2+}, Column 5, lines 22-27); and a second compound containing W (WO_3, Column 6, lines 11-16).

Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al. (JP 01-182390 A).

Regarding claim 6, Kimura discloses a phosphor paste comprising a phosphor containing at least one selected from the group consisting of a (Zn,Mg)O system phosphor and ZnO:Zn, and a compound containing at least P_2O_5, wherein the compound being added in an amount of 0.01 to 10.00 wt% to the phosphor (Abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada et al. (US 6,690,119) in view of Kagami et al. (US 4,275,333).

Regarding claims 4, 8 and 9, Hamada discloses a fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer formed on an anode, wherein the phosphor layer comprises a compound selected from P_2O_6 (Column 2, lines

12-19), the compound being added in an amount of 0.01 to 10.00 wt% to the phosphor layer (Column 2, lines 20-31). Hamada exemplifies a phosphor layer further comprising another compound of a conductive oxide, such as ZnO, In_2O_3, however, it fails to disclose such composition being a compound of W. In the same field of endeavor, Kagami discloses a fluorescent display device having a phosphor layer further comprising a conductive oxide compound, such as tungsten oxide (WO_3), indium oxide (In_2O_3) and zinc oxide (ZnO), included in the phosphor composition in order to increase the luminance of the phosphor (Column 3, lines 46-68). Accordingly, it would have been obvious to one of ordinary skills in the art at the time the invention was made to provide a conductive oxide of WO_3 as disclosed by Kagami instead of the ZnO or In_2O_3 compounds disclosed by Hamada in order to increase the luminance of the phosphor layer composition, since the selection of any of these known equivalents would be are considered within the level of ordinary skill in the art.

Claims 2, 4, 5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (JP 01-182390 A) in view of Kagami et al. (US 4,275,333).

Regarding claims 2, 4, 5 and 7-9, Kimura discloses a fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer formed on an anode, the phosphor layer made of a phosphor paste comprising a phosphor containing at least one selected from the group consisting of a (Zn,Mg)O system phosphor and ZnO:Zn, and a compound containing at least P_2O_5, wherein the compound is being added in an amount of 0.0005 to 0.03 wt% to the phosphor (Abstract). Kimura is silent in regard to the limitation of the phosphor composition comprising a compound of W. However, in the same field of endeavor, Kagami discloses phosphor compositions for fluorescent display devices further comprising a conductive oxide compound such as WO_3. Kagami teaches the use of conductive oxides within the incorporated to the phosphor composition in order to increase luminance of the phosphor.

Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the compound of W as disclosed by Kagami into the phosphor composition of Kimura in order to increase the luminance of the phosphor composition.

Response to Arguments

Applicant's arguments with respect to claims 2 and 4-6 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/6/06

Mariceli Santiago
Primary Examiner
Art Unit 2879